THE VERNAY SCIENTIFIC SURVEY OF THE EASTERN GHATS.

ORNITHOLOGICAL SECTION.

BY

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INTRODUCTION.

In recent numbers of our Journal, the members of the Bombay Natural History Society have been informed that a scientific survey of the Eastern Ghats was contemplated, and by the time that this number of the Journal is issued from the press, the survey will actually have been made and nearly completed. Some time will necessarily lapse before the collections obtained are fully worked out and the results available for publication; but, in the meantime, the Society is anxious that a preliminary report should appear, so that members of the Society may learn somewhat of the progress of the work.

The necessity of the survey from an ornithological point of view does not require elaboration. All systematic workers at Indian Ornithology have had practical experience of the fact that their work was continually hampered in all directions by the absence of specimens and field notes from practically the whole of the Madras Presidency. The birds of the Nilgiris are fairly well known and there are a good many specimens of Nilgiri birds in the British Museum and other collections. With this local exception, it may be stated in general terms that Dr. Jerdon's old and poor specimens in the British Museum said to come from 'Madras', but with no reliable data, and Dr. Jerdon's own field notes and observations scattered through the volumes of his historic book comprise almost the whole of the material available to represent the Madras Presidency and the line of the Eastern Ghats and the low country extending up the greater part of the East Coast of India.

This deficiency has been felt throughout the whole of Indian Ornithology. It has been felt more seriously than ever since the rise of the study of local geographical races or subspecies and their expression in the trinomial system of nomenclature. That the deficiency has been so greatly felt is not surprising. As is well known, a very large number of Indian birds are widely distributed in India, Burma and Ceylon, to say nothing of often a further distribution beyond these countries. With such a wide distribution, they have been subject to greatly differing influences of climate, rainfall, soil and elevation and the effects are seen in the number of geographical races into which the majority can be shown to fall. There is now available to students of these effects of wide distribution a great mass of material in the British Museum, the Indian Museum, the Society's collection and in a number of private collections; but every student sooner or later finds his work hampered and his conclusions rendered incomplete by the absence

of material representing Madras and the Eastern Ghats. When it is remembered that in this area are situated the type localities for names of many Indian birds, and those in some cases very common ones, it will be realized that this gap in our material may often have far-reaching results.

The hope of an Ornithological Survey of South-Eastern India has therefore for a long time been in many minds. The fact that the Society has at last been able to initiate such a survey has been due to the generosity of one of its Vice-Patrons. The name of Mr. A. S. Vernay is already well-known to Ornithologists, not only in India but across the seven seas, as that of a patron to the science who combines generosity with an ample appreciation of the fields where such generosity may most advantageously be applied. And they will not be surprised therefore to learn that, when Mr. Vernay heard and appreciated the need of an Ornithological Survey of South-East India, he took steps to make it possible. To Mr. Vernay, in short, we are indebted for this present enterprise.

As soon as the survey was provided for, the Society took steps to secure the advice and co-operation of the Indian Museum at Calcutta. The result was that its scope was enlarged to include not only birds but general collecting as well. When it took the field in April 1929, the survey included the following personnel with the duties detailed against them :—

Mr. V. S. LaPersonne (in charge of the Expedition) :—Birds.

Mr. N. A. Baptista :—Mammals.

The programme for the survey was not left to chance, to be decided as the work progressed by local attractions and facilities. The Society first of all made a preliminary study of the various districts through which the Eastern Ghats range, utilizing the aid of physical maps and such data as was available in the various local *Gazetteers*. The authorities of the Indian Museum were consulted. Attention was also paid to the known geological features of the area as well as the distribution of the forest areas and the divisions of the hill ranges. The known type localities for birds described by the early naturalists were also borne in mind.

Working with this collection of data, the Society fixed on a programme of dates and camps as follows :—

1. *Salem District.*—
   Time : April, May and June (Rainfall 10″).
   Collecting camps : Plains round Pondicherry, Hills—Shevaroys.
2. *Cuddapah District.*—
   Time : July, August and September (Rainfall 15″).
   Collecting camps : Palkonda Hills.
3. *Kurnool District.*—
   Time : October–November (Rainfall 15″).
   Collecting camps :—Cumbum Valley, Nallamalai Hills.
4. *Godavari District.*—
   Time : December (Rainfall nil).
   Collecting camp : Godavari Delta.

5. *Vizagapatam District.*—

Time : January, February and March (Rainfall nil).
Collecting camp : Main Range, Trans-Ghat (Jeypore Agency).

6. *Ganjam District.*—

Time : April–May (Rainfall nil).
Collecting camps : Russelkonda Hills, Plains, Chilka Lake.

7. *Balasore, Orissa.*—

Time : June (Rainfall nil).
Collecting camps : Hills and Plains.

Up to the time of writing, this programme with small exceptions has been kept to fairly closely and on the whole has proved very satisfactory. When the Survey is complete, we shall place on record a diary of the dates and places where the survey actually worked.

The instructions given to Mr. LaPersonne to guide him in collecting birds were necessarily of a general nature only. He was warned that a good series from the different areas of common, resident birds was the chief desideratum ; that such resident birds were to be preferred to migrants from the north which were merely passage birds or winter visitors in the area and so likely to have little local significance. He was impressed with the need of careful sexing of the specimens and the desirability of recording the state of organs on the labels. He was also asked to furnish as many field notes as possible.

Since the Survey took the field in April 1929, Mr. LaPersonne has worked very carefully with these instructions in mind. He has sent back batch after batch of beautiful specimens, the numbers obtained and the standard of their preparation being all that could be desired. Considering the time at his disposal both for collecting, skinning, labelling and writing up his notes, and the fact that he was continually working in localities of which he had no previous knowledge, he is to be congratulated on doing well. The Survey is already definitely a success, and when it is complete, we may expect very real results from it.

It has not yet been possible to work out the results in detail. When the Society's Mammal Survey was initiated, our Journal was able to furnish a series of reports of great interest straightaway from the beginning. But this was because at that date the smaller mammals of India were so little known that systematic collecting in any district immediately produced a number of novelties either in the way of undescribed forms or of extensions of range or important additions to our knowledge of habits. This cannot be with the present survey. The birds of India are well known and probably few or no species remain unknown. A few geographical races perhaps remain to be discovered and described, and there is still a good deal of work to be done in reviewing the races and the distribution of many of the better known species. Such work is not spectacular ; it implies much study of the large series in the

British Museum and collation of existing literature; and with the material from South-Eastern India, which the Survey is now making available, this work can now be done more satisfactorily than ever before. It is, however, obvious that it cannot be done before the Survey is complete and the last specimen added to each series. To attempt to work out or verify the races and distribution of a common species when the first specimens come to hand from the Salem district is to risk our conclusions being upset and the work to be done anew when the series from the other collecting camps is before us.

We are sure therefore the members of the Society will recognize the need for patience. The specimens are being identified, measured and catalogued as they reach the British Museum. Notes are accumulating on the interesting points that arise from them. Then, when the Survey is complete, each species will be examined afresh and the detailed report written, making, we hope, a substantial contribution to the Ornithology of India.

In the meantime, in order to give some idea of the manner in which the work is proceeding, we have written a short account of the material collected at the first camp in the Salem district. This report shows the number of specimens obtained of each species and the collector's notes on their abundance or otherwise. The identifications are provisional, pending revision when the Survey material is complete. For this reason we have often omitted the trinomial. The notes of some of the early naturalists who collected or received specimens from this part of India will be of more than local interest. They furnish, incidentally, examples of the haphazard way in which chance has fixed the type localities of many species and races—a chance, which, crystallized by the rigid application of the Law of Priority of Nomenclature, often acts as a definite obstacle to a satisfactory classification of the local races of a species.

With these preliminary remarks, we set before our members a brief report from the first collecting camp.

REPORT I.

Kurumbapatti, Salem District.

April 9th to May 6th, 1929.

Kurumbapatti is about 12 miles from Salem town, and about half a mile from the southern foot of the Shevaroy Hills. The members of the Survey reached Kurumbapatti on the 8th April, 1929, and, by the courtesy of the officers of the Forest Department, were allowed to put up in the Forest bungalow in the Kurumbapatti Forest Reserve which made an ideal collecting ground. Large tracts of secondary jungle occur within a mile radius of the bungalow, and practically the whole area between Salem town and the foot of the Shevaroys is covered with this jungle. The whole area is dry—in fact, to quote Mr. LaPersonne's words—'it would almost seem as if the drier portion of the Kanara forests were lifted *en bloc* and placed here.'

Kurumbapatti Forest Reserve is considered secondary jungle from the point of view of the Forest Department. Bamboo grows throughout the area, but it is not big enough to be of much commercial value. The remainder of the Reserve is either 'Korunda' or large tracts of cactus and low scrub.

Large trees are few and chiefly tamarind, banyan or babul. Except for a small patch on which Kurumbapatti village stands, the soil is red. Open patches occur in the jungle either naturally or cleared by the forest people. Bird life is varied and plentiful, but scarcity of water, the paucity of open grazing and the attentions of local shikaris have had a bad effect on game animals. Mr. LaPersonne had hoped to work the southern slopes of the Shevaroys from this camp, but the jungle proved to be almost impenetrable.

Collecting here was carried on under very pleasant conditions so far as temperature was concerned. There was rain every evening which kept the days cool, and heavy rain fell on five consecutive days from the 24th to the 29th April. Continual mist and heavy clouds could be seen shrouding the Shevaroys.

At this camp 197 birds were collected and a detailed list of them now follows:—The specimens obtained are enumerated under each species. All were collected at Kurumbapatti and its immediate neighbourhood.

The Jungle Crow. Corvus coronoides culminatus Sykes.

Corvus culminatus Sykes. P.Z.S., 1832, p. 96 (Deccan).—Common throughout the district both in villages and in the jungle. Birds carrying twigs noted on 23rd April (V. S. LaP.).

The correct treatment of the Jungle Crows of India is still a matter requiring further consideration. There are two main points at issue. First of all, opinions differ as to whether they should be regarded as races of one widely spread species occurring throughout the whole of South-Eastern Asia, with the exception of a few islands, from the mouth of the Amur to Turkestan, south to Ceylon and Tasmania and east to New Britain. In this case the oldest specific name for the whole group is *coronoides*, the name given in 1826 by Vigors and Horsfield to a crow from near Sydney. This type is in the British Museum. The other view is that the crows of the area should be regarded as falling into two species, each with its own races. Under this view *coronoides* remains the name for the Australian forms, whilst our Indian races are attributed to a separate species *levaillanti* of which the type comes from Java.

In India we are concerned with a second problem, the number of races to be recognized and their correct names. The new edition of the *Fauna* recognizes four races as follows:—

Corvus coronoides levaillanti, Lesson. Traité d'Orn., p. 328 (1831—Bengal)
,, ,, *culminatus*, Sykes. P. Z. S., 1832, p. 96 (Deccan).
,, ,, *intermedius*, Adams. P. Z. S., 1859, p. 171 (Kashmir).
,, ,, *andamanensis*, Tytler. Beavan, Ibis, 1866, p. 420 (Port Blair, Andamans).

These races are probably correct, so long as one recognizes the fact that in the intermediate areas individuals cannot be definitely assigned to one or other race. Meinertzhagen (*Nov. Zool.*, xxxiii, 1926, p. 83) has, however, raised the theory that *culminatus* cannot stand for the South Indian and Singhalese race. His argument is that the type specimen is abnormally small and evidently a dwarf and that all other specimens from the Deccan are far larger and clearly belong to the race *levaillanti* so that *culminatus* becomes a synonym of that name. Whether his view is correct or not should be settled as our survey progresses northwards to the area which lies along the south of Bengal down towards the Deccan, and it is hoped that the Society's collectors will pay special attention in this area to the procuring of a very carefully sexed series of this crow.

Should Meinertzhagen's view be correct, *Corvus coronoides* (*levaillanti*) *anthracinus* (Madarasz). Ann. Mus. Nat. Hungar., 8, 1911, p. 420. (Ceylon) becomes the correct name for the small crow of South India and Ceylon to which our specimen clearly belongs. The measurements of all these races of Jungle Crow within our limits require to be worked out *de novo* based on carefully sexed specimens known to be in their breeding area. Average measurements including both sexes and possible migrants are valueless.

Among the early writers on Indian birds the name of Col. W. H. Sykes stands out prominently. His natural history studies were not confined to birds, but he also collected mammals and fishes and contributed papers on them to the Zoological Society. He took an interest in Geology and wrote a long paper on the Geology of the Deccan for the *Indian Review*.

Col. Sykes was born in 1790 and went out to India in 1803, receiving a commission in the Bombay Army on May, 1 1804. He saw a good deal of service during the Mahratta wars, commanding his regiment at the battles of Kirkee and Poona and took part in the capture of many of the numerous hill forts along the Western Ghats.

In 1820 he went on furlough to England and after spending four years at home returned to India in 1824 when he was seconded from military duty and appointed Statistical Reporter to the Government of Bombay.

He held this post till December 1829, when it was abolished on the score of expense. Sykes, however, offered—should he be relieved of military service—to complete his report gratuitously. This offer, to the shame of the Bombay Government, was accepted and Sykes continued to work at his report till January 1831, when he finally returned to England. In the following year he published in the *P. Z. S.* his well-known paper ' A Catalogue of the Birds of the Deccan.'

His specimens on which this paper was based were presented to the H. E. I. Coy.'s Museum and, when that collection was broken up, passed to the British Museum where they are now.

The country where Sykes collected his birds consists of the following districts :—The whole of the Poona, Sholapur and Satara, the eastern part of Bijapur and Ahmednagar, and the southern part of Nasik.

The House-Crow. Corvus splendens Vieillot.

Corvus splendens Vieillot, Nouv. Dict. d' Hist. Nat., viii, 1817, p. 44
V 185 ♀ 4-5-29 ; V 186, 4-5-29.

Common in Salem Town but does not enter the jungles here. Specimens obtained were that from a party which evidenty halted here on their way to the Shevaroys. The whole flock flew off over the outer ridge of the Shevaroys. From their genital organs, it would seem that they do not breed until late in June. (V. S. LaP.).

The Indian Tree-Pie. Dendrocitta rufa (Latham)

Corvus rufus Latham, Ind. Ornith., p. 161 (1790—Malabar coast).
V. 82 ♂ 18-4-29. A very worn and bleached specimen

Common though scattered over the area. Specimens in moult, but others were observed mating. Birds in full ' song '. No other species of *Dendrocitta* observed. (V.S. Lap.).

There is some divergence of opinion about the races of this species in our Limits. The *Fauna* gives the following races :—

Dendrocitta rufa (Latham) loc. cit.
,, *vagabunda*—Latham. *Index Orn.*, p. 171 (1790—India restricted to Calcutta).
,, *sclateri*—Stuart Baker, *F.B.I.*, 2nd ed. i., 50 (1922—Mr. Victoria).
,, *kinneari*— Do. do. do. p. 51 (1922—Toungoo).
,, *saturatior*—Ticehurst, *Bull. B.O.C.*, xlii, 56 (1922—Kaukareyat, Amherst).

Ticehurst, however, who has carefully examined this group (*Ibis*, 1922, 537) does not consider *sclateri* and *kinneari* worthy of separation but does recognize *pallida* [Blyth, *J.A.S.B.*, xv. 1846, p. 30 (Simla)] as a larger, paler race from the North-West Himalaya, Sind, Rajputana, Punjab, North-West Frontier. While suspending final judgment until the survey is complete, we are inclined to think that neither treatment of the group is satisfactory and that a regrouping of the races is required.

Latham's name *Corvus rufus* is based on the description and plate of 'La Pie rouse de la Chine' in Sonnerat's '*Voyage aux Indes Orientales et la Chine*' pl. 106, p. 186.

This bird was said to have come from China, but as the species is not found further east than Indo-China, there must have been some mistake and on that account Baker has fixed 'Malabar' as the type locality.

Piérre Sonnerat was a French naturalist and traveller who was born at Lyons in 1745 and died in Paris in 1814. He made two voyages to the East, but the second was the one which he described in the above-mentioned work. He set out in 1774 and after visiting Ceylon proceeded to the coast of Malabar where he stayed at Mahé. After making excursions in the Ghats, he sailed up the coast to Surat and from there proceeded to the Coromandel Coast where he remained for some time and then went to the Malay Peninsula and China. He later returned to South India and for two years travelled through the province 'du Carnate, du Tanjaeur et du Madure.'

His explorations were interrupted by the outbreak of war with Great Britain and he was in Pondicherry when that town was besieged, and on its surrender he returned to France. He died in Paris in 1814.

The Jungle Babbler. Turdoides terricolor (Hodgson).

Pastor terricolor Hodgs., J.A.S. B., v, p. 771 (1836—Nepal).

V. 10 ♀ 10-4-29; V. 25 ♂ 11-4-29; V. 35 ♂ 12-4-29; V. 56 ♀ 15-4-29. V. 130 ♂ 26-4-29; V. 135, 26-4-29.

A bird of the denser portions of the Reserve. There is no intermingling with the next species which is more a bird of the neighbourhood of villages. (V. S. LaP.).

There is such complete intergrading between the races of this bird that it is difficult to define their distribution. We hope to discuss the point in detail when the Survey is complete.

The White-headed Babbler. Turdoides polioplocamus Oberholser.

Turdoides striatus polioplocamus Oberh., Proc. Biol. Soc. Wash., 33, p. 84 (1920—Carnatic).

V. 3. ♀ 9-4-29; V. 24 ♂ 11-4-29; V. 34 ♂ 12-4-29;
V. 90 ♂ 19-4-29; V. 93, V. 97 ♂ ♀ 20-4-29; V. 110, 22-4-29;
V. 131-134 ♂ ♀ ♂ ♂ 26-4-29.

A common and confiding bird met with both in dense jungle and villages. It may often be met with round the forest bungalows, particularly about the kitchen. (V. S. LaP.).

We have kept this name as a binomial for the present as we are not yet satisfied with regard to the exact relationship between the Singhalese bird *Turdoides striatus* (Swains.) and these two continental species of Babbler.

Horsfield's Scimilar-Babbler. Pomatorhinus horsfieldi Sykes.

Pomatorhinus horsfieldi Sykes, P.Z.S., 1832, p. 89 (Deccan).

V. 122 ♂ 24-4-29; V. 140-142 ♂ ♂ ♀ 27-4-29.

Neither seen nor heard before April 24th. That night there was very heavy rain which continued for four or five days, during which period I heard the call incessantly. (V. S. LaP.).

This is another species whose named races intergrade so completely throughout its range that it is almost impossible to define the races or ranges.

The White-throated Babbler. Dumetia albigularis (Blyth).

Malacocercus albigularis Blyth, J.A.S.B., XVI, p. 453 (1847—Tapoor Pass).

V. 37-39 ♂ ♂ ♂ 13-4-29; V. 49 ♂ 14-4-29; V. 107 ♀ 22-4-29;
V. 137-138 ♂ ♂ 27-4-29; V. 56-157 ♂ 0 ? 30-4-29.

These birds are all just completing an entire moult, and the organs are either undeveloped or only of moderate size.

Common and met with practically wherever there are hedges and sparse jungle (V. S. LaP.). This and *D. hyperythra* should probably be considered as races of one species.

Described from a specimen collected by Dr. T. C. Jerdon at the top of the Tapoor Pass near Jaulnah.

The Yellow-eyed Babbler. Pyctorhis sinensis (Gmel.).

Parus sinensis Gmel., Syst. Nat., I, p. 1012 (1789—China).

V. 65 ♂ 16-4-29; V. 106 ♂ 22-4-29; V. 193-194 ♂ ♂ 6-5-29.

V. 148 O ? 28–4–29.

A bird of hedges and sparse jungle. Not common and extremely shy. Breeding ; though specimens are still in moult. Inside of mouth black ; orbital skin and legs yellow or lemon-yellow. (V. S. LaP.).

It seems curious, though there is apparently no doubt of the fact, that the Chinese and Indian birds are not separable. There is however some conflict of opinion as to what races should be recognized in our area.

The new edition of the *Fauna* recognizes the following forms :—

Pyctorhis sinensis sinensis (Gmel.).

,, *saturatior*, Ticehurst, *Bull. B.O.C.*, xlii ; p. 57 (1922—Bhutan Duars).

,, *nasalis*, Legge, *Ann. Mag., N. H.*, (5) iii, p. 169 (1879—Ceylon).

Ticehurst, however, in his examination of the group (*Ibis* 1922, 542) considers that Franklin's name *hypoleucus* (*P.Z.S.*, 1831, 118) should be restricted to the United Provinces and used for a paler race extending from Sind, North-West Frontier Province and the Punjab to the United Provinces, Khandesh and Kathiawar. We hope that a good series of this common bird will come in from the Survey and help us to decide between these divergent views.

Latham in his *General Synopsis of Birds*, vol. ii, pt. 2, pp. 555, 783 first described this bird from drawings in the possession of Capt. Broadley and said it came from China, but he proposed no Latin name which was done later by Gmelin.

The Spotted Babbler. Pellorneum ruficeps Swainson.

Pellorneum ruficeps Swainson, F. Bor.-Am., Birds, p. 487 (1831—Nilgiris).

V. 86 ♀ 19–4–29 ; V. 118–119 ♀ ♂ 24–4–29 ; V. 183–184 ♀ ♂ 4–5–29.

From their organs it was evident that the birds were soon to breed.

Not quite common, but possibly the birds were more common than they appeared, owing to their skulking habits and the thickness of the undergrowth. One was seen carrying nest material on April 17th (S. V. LaP.).

The above series appear to be indistinguishable from Nilgiri birds. Harrington originally confined his dark race *granti* to Travancore and we are not certain that the *Fauna* is right in attributing to it also the birds from Coorg, the Wynaad and South-West Mysore. A fine series of this species is coming in from some of the later collecting camps and it should be possible later on to speak more positively of the distribution of the races of this common bird.

The Common Iora. Ægithina tiphia (L.)

Motacilla tiphia Linnæus, Syst. Nat., ed X., p. 186 (1758—Bengal).

V. 18–19 ♂ ♀ 11–4–29 ; V. 42 ♀ 13–4–29 ; V. 77 ♀ 18–4–29 ;

V. 99–101 ♂♂♂ 21–4–29 ; V. 189–190 ♂♂ 5–5–29.

Common throughout the district of Salem, ascending the hills to 4,000 ft. Specimens vary in density of blackness on the upper parts. Breeding from April to June. (V. S. LaP.).

The above males are all in full breeding plumage.

The nestling stage of this common bird is quite unknown and we would urge the necessity of obtaining specimens in spirits in the hope that an examination of the down plumage (if any) may throw some light on its affinities.

Linné took his description of the Common Iora from the figure and descriptions in part ii, p. 79, plate 79 of George Edward's *Natural History of Birds* (1747), where it is called ' the Green Indian Flycatcher ' and came, we are told, ' with others from Bengal ' to Mr. Joseph Dandridge.

Of this Mr. Dandridge we know very little except that he lived in London at Stoke Newington and was a pattern drawer in Moorfields by trade. He was greatly interested in different branches of Natural History and had collections of birds, lepidoptera and fungi. Of the first he had both eggs and specimens, either stuffed or ' preserved dry ', as well as a number of drawings. He corresponded with John Ray in regard to his insects and many of the well-known botanists of the day about his fungi.

Dandridge first allowed Albin to draw his birds and then, not being satisfied with the results, induced Edwards to make paintings of them also, certainly with better results.

Jerdon's Chloropsis. Chloropsis jerdoni (Blyth).

Phyllornis jerdoni Blyth. J.A.S.B., vol. xiii, p. 392 (1844—Goomsoor) V. 98 ♂ Imm. 20–4–29 ; V. 187 ♂ ad. 5–5–29.

No. V. 98 is a most interesting specimen in female dress with a body moult into the adult male plumage just commencing. The position and affinities of the genus and the peculiar distribution of the various species are clearly not fully understood and their investigation may be commended to Ornithological members of the Society. It is particularly desirable to obtain chicks in spirit and skins exhibiting the juvenile plumages and the various moults.

The name *jerdoni* was proposed by Blyth for the bird identified by Jerdon as *cochinensis* in his Catalogue No. 247 which he said he had obtained at Goomsoor, the Tapoor pass and elsewhere. The first named place which is in the north of Ganjam may be considered the restricted type locality.

The Red-vented Bulbul. Molpastes hæmorrhous (Gmel.).

Muscicapa hæmorrhous, Gmelin. Syst. Nat. i, 941 (1789—Ceylon). V. 50 ♂ 14-4-29 ; V. 53 ♀ 14-4-29 ; V. 116 ♂ 23-4-29.

Common and breeding throughout the district. Hard set eggs found on 23rd April. (V. S. LaP.).

The name *Muscicapa hæmorrhous* was given by Gmelin to the bulbul from Ceylon figured by Peter Brown in his *New Illustration of Zoology*, published in 1776. This work contained fifty illustrations of mammals, birds, reptiles and insects which were accompanied by descriptions in French and English and a number of the figures of birds were copied from a collection of paintings belonging to Governor Loten.

John Gideon Loten was the Dutch Governor of Ceylon from 1752 to 1757 when he was transferred to Batavia. While in the East he employed an artist to make paintings of different objects of Natural History, and, when he retired in 1758, he brought these paintings with him to Holland.

A few years ago the British Museum was fortunate enough to acquire this collections of drawings which consists of 101 sheets of birds, 5 of mammals, 10 of insects, 14 of fishes, etc., and 14 of plants, and represents species found in Ceylon, Java and other Islands of the Indian Archipelago which belonged to the Dutch.

Some of these drawings were, as we have noted, copied by Peter Brown while others were used by Pennant and Forster in the different editions of the *Indian Zoology*.

The Southern Red-whiskered Bulbul. Otocompsa emeria fuscicaudata Gould.

Otocompsa fuscicaudata Gould, P.Z.S., 1865, p. 664 (Madras). V. 70-72-73. ♀♂♂ 17-4-29 ; V. 152 ♂ 29-4-29.

Common but not quite so plentiful as *M. hæmorrhous*. Breeding in hedges. (V. S. LaP.).

The White-browed Bulbul. Pycnonotus luteolus (Lesson).

Hæmatornis luteolus Lesson, Rev. Zool. p. 354 (1840—India, Bombay). V. 11 ♀ 10-4-29 ; V. 79 ♀ 18-4-29 ; V. 165 ♀ 1-5-29.

Extremely common in jungle and village hedges. I do not think there is a space of ten square yards that does not harbour this bird.

He has a lively, rowdy chatter with no attempt at harmony—just a burst of not unpleasing notes, ending in a frightened whistle They are busy at present chasing each other round, but I have not observed any signs of nest building. The organs of the above are slightly developed. (V. S. LaP.).

The above birds agree with the topotype from Bombay. When the Survey series is complete and full measurements are available for the two sexes, it will be necessary to settle the question as to the validity of a supposed smaller race in Ceylon.

The Southern Pied Bush-chat. Saxicola caprata atrata (Blyth.).

Pratincola atrata Blyth, J.A.S.B., xx, p. 177 (1851—Ceylon) V. 8 ♂ 9-4-29 ; V. 164 ♂ 30-4-29.

Only two specimens were seen in and around the village here, both males with well developed testes. (V. S. LaP.).

Dr. Kelaart, who sent this bird to Blyth, under the above name but did not himself describe it, was born in Ceylon in 1860. His father was a 'burgher' of Dutch descent employed in the Military Medical department. At an early age young Kelaart was sent to England to study medicine and surgery and, after taking his diploma, was appointed Staff Assistant Surgeon to the troops stationed at Gibraltar. While there he occupied himself with studying Marine

Zoology and in making a collection of the plants found in British territory, an account of which he published under the title *Flora Calpineses*. Later, he was transferred to the Ceylon Medical Service and there busied himself in his leisure time with the study of the fauna of the island. On account of ill-health, he was ordered to England in 1860 and died at sea on the way on August 31st at the age of forty-two. Kelaart was a regular correspondent of Blyth's and though he did not himself shoot, he procured many interesting and new specimens of birds and mammals from others. Most of his specimens were obtained in the vicinity of Newara Elia.

He is best known by his *Prodromus Fauna* published in 1852 in which the accounts of mammals and reptiles are much superior to that on the birds. For the latter he relied to a very great extent on the work of E. L. Layard and unfortunately published his list without that Ornithologist first revising it.

The Black-backed Indian Robin. Saxicoloides fulicata (L.).

Motacilla fulicata Linnæus, Syst. Nat. vol. i, p. 336 (1766—Philippines in error, Ceylon). V. i, ♀ 9-4-29 ; V. 31 ♂ 12-4-29 ; V. 153 ♂ 29-4-29.

Common in open patches and around villages. One chick seen in a nest on April 15 (V. S. LaP.).

The Magpie Robin. Copsychus saularis (L.).

Gracula saularis Linnæus, Syst. Nat., X, p. 109 (1758—Bengal). V. 71, ♂ 17-4-29.

Abundant, met with alike in forest and open secondary jungle. (V. S. LaP.).

This name was given by Linné to the bird figured and described by Edwards as ' the Little Indian Pye ' (*Birds*, pt. iv, p. 181, pl. 181). Both sexes were described, but only the male figured ' They were sent from Bengal, preserved dry, to the late Mr. Joseph Dandridge of Moorfields, London', Edwards tells us, and adds that the sender called them ' Dyals.' Albin also depicted this species and called it the Bengal Magpie, while Petiver in Ray's *Synopsis Methodica Avium et Piscum*, p. 197, pl. 2 Nos. 19 and 20, calls them cock and hen Saularies.

The Indian Shama. Kittacincla malabarica (Scop.).

Muscicapa malabarica Scopoli, Del, Flora et. Fauna Insubr. II, p. 96 (1786—Mahé).

V. 29 ♂ 11-4-29 ; V. 33 ♂ 12-4-29 ; V. 109 ♀ 27-4-29.

From the organs the above birds appeared about to breed.

Richmond has pointed out (*Proc. U. S. Nat. Mus.*, XXVI, 1903, p. 152) that Scopoli gave the above name to Sonnerat's ' Les Gobe-mouches á longue queque de Gingi ' (*Voy. Aux. Ind. etc.*, p. 196) and by mistake refers also to plate III which is a drongo, but the description is quite clear and the name must stand. Sonnerat, though he writes ' Lê Gobe-mouche etc-de Gingi ' states that the bird came from the Malabar Coast and so the neighbourhood of Mahé must stand as the type locality.

Tickell's Blue Flycatcher. Cyornis tickelliæ Blyth.

Cyornis tickelliæ Blyth, J. A. S. B., xii, 941 (1843—Borabhum, Central India).

V. 22-23 ♀ ♂ 11-4-29 ; V. 115 ♂ 23-4-29 ; V. 149 ♀ 28-4-29 ; V. 170 ♂ 2-5-29.

Not common. Breeding in jungle. Organs developed. (V.S. LaP.).

Col. S. R. Tickell who collected the specimen described by Blyth went out to India in 1829 when he was appointed to the 31st Bengal Native Infantry.

In 1834 he passed into civil employ and served for some years as Political Assistant, S. W. Frontier, i.e., the S. W. Frontier of the Bengal Presidency of these days.

He was greatly interested in Natural History and in 1833 published a paper in volume ii of the Asiatic Soc. of Bengal entitled ' A list of the Birds collected in the Jungles of Barabhum and Dhalbhum '. In this article he gives notes on fifty-four different species of birds, thirty-six of which he described as new.

His paper ' On the Ornithology of India : A description of the eggs, also nests of several birds of the plains of India collected chiefly during 1845-46 ' which appeared in the *Asiatic Society's Journal*, vol. xvii (1848) was the first account of the eggs of Indian birds' eggs nesting in the plains.

In 1847 he was transferred to Arakan and served in Burma for the rest of his service. He died in 1875.

The Paradise Flycatcher. Terpsiphone paradisi paradisi (L.).

Corvus paradisi Linnæus, Syst. Nat., ed. x, p. 107 (1758—Fort Saint George, Madras).

V. 30 ♂ 12-4-29 ; V. 36 ♂ 12-4-29 ; V. 60 ♀ 15-4-29.
V. 125 ♂ 25-4-29.

The organs of the birds were scarcely developed.

The first reference quoted by Linné is that of Ray in *Synopsis Methodica Avium et Piscum* published in 1713. In this work there is an account illustrated by Petiver of some birds from Madras founded on pictures and descriptions sent him by Dr. Edward Bulkley.

The drawings are crude woodcuts, but certain of the species—especially the Pied Bird of Paradise as it is called—are easily identified.

Dr. Bulkley was a surgeon in the East India Company's employ at Madras and went out there in 1692. He was appointed to take charge of the hospital and held various other medical appointments till 1709, when he resigned on account of ill-health. In the same year he was appointed to the Company's local Council and served as member of Council and Paymaster till 1713, when he had again to resign on account of health and shortly afterwards died.

Bulkley was said to be a man of great ability and energy and did much to improve the hospital and medical arrangements in Madras.

He appears to have been interested in Natural History and sent plants and insects to Petiver, besides the drawings above referred to.

The Black-naped Flycatcher. Hypothymis azurea sykesi S. B.

Hypothymis azurea sykesi Stuart Baker. Bull. B. O. C., xl, p. 6 (1920—Deccan).

V. 55 ♂ 15-4-29 ; V. 66 ♀ 16-4-29 ; V. 96 ♂ 20-4-29.
V. 121 ♀ 24-4-29 ; V. 163 ♂ 1-5-29.

Not very common. Met with in thick jungle, particularly in shady nullahs overhung by lofty trees. (V. S. LaP.).

The White-spotted Fantail Flycatcher. Rhipidura pectoralis (Jerdon).

Leucocerca pectoralis Jerdon, iii, Ind. Orn. Text to pl. ii, (1847—Nilgiris).

V. 108 ♀ 22-4-29 ; V. 195 ♂ 6-5-29.

Not common and met with only in dense jungle. (V. S. LaP.).

Jerdon in his catalogue of the Birds of the Peninsula of India published in the *Madras Jour. Litt. and Sci.* (1839-44) mentions under the head of *Leucocirca fuscoventris* (Frankl.) that he had seen a fantail flycatcher in the Nilgiris but had been unable to obtain a specimen. When visiting these hills some years later, he obtained specimens and found the bird was a new species and named it as above.

The Bay-backed Shrike. Lanius vittatus Valenc.

Lanius vittatus Valenc., Dict. Sci. Nat., xl, p. 227 (1826—Pondicherry).

V. 102 ♂ 21-4-29 ; V. III—112 ♀ ♂ 22-4-29.

Both males are remarkable for the extent of the black forehead and its contrast with a practically white patch behind it.

The type of this shrike was collected by M. Leschenault de la Tour, a French naturalist and traveller, born in 1773. He visited India in 1816, remaining some time at Pondicherry and then travelling up the line of the Ghauts to Bengal from where he went to Ceylon returning to France in 1822. In the following year he visited South America. He died in Paris in 1826.

The Southern Grey-backed Shrike. Lanius schach caniceps Blyth.

Lanius caniceps Blyth, J. A. S. B., xv, 302 (1846—Madras).

Not common. Specimens were shot in cactus-covered country and were certainly breeding in the vicinity. (V. S. LaP.).

When describing their species in the *Journal of the Asiatic Society*, Blyth, had, according to his catalogue, examples from (1) Rajmahal, (2) Sind and (3) South India. As (1) and (2) are presumably *erythronotus*, the northern form, the bird from South India must be the type. It was presented by D. Ross and came from the vicinty of Madras.

The Brown Shrike. Lanius cristatus cristatus Linnæus.

Lanius cristatus Linnæus, Syst. Nat., ed. x, p. 93 (1758—Bengal).

V. 12 ♀ 10-4-29 ; V. 32 ♀ 12-4-29 ; V. 103 ♂ 21-4-29 ; V. 139 ♂ 27-4-29.

The organs are undeveloped in the above birds and three of them are undergoing a complete moult, contrary to the statement in the *Fauna* that all the shrikes have only an autumn moult. The distribution given there that in winter this shrike is found practically throughout Northern India as far south as Mt. Abu on the west and Orissa on the east is incorrect. It is not found in the Punjab, the N. W. F. Province or Sindh, but, to quote Oates, it is a winter visitor to the whole of the Empire except that portion lying to the west of a line roughly drawn from the Sutlej Valley to Mount Abu ; Ceylon ; the Andamans.

The specimen Linné took his description from was a young example, with cross bars still on the breast, figured by Edwards in his *Nat. Hist. Birds*, p. 54, pl. 54 and called the Crested Red or Russet Butcher bird. It was sent to Dandridge from Bengal.

The Common Wood-Shrike. Tephrodornis pondiceriana (Gmel.)

Muscicapa pondiceriana Gmelin, Syst. Nat. i, p. 939 (1789—Pondicherry).
V. 89 ♀ 19-4-29 ; V. 178-179 ♀ ♂ 3-5-29.
It is evident from the organs of these birds that the breeding season was beginning.
Gmelin took his description from Sonnerat's ' Les gobe-mouches de Pondicherry ' ; *Voy. aux Ind. Orient. et la Chine*, p. 198, 17.

The Small Minivet. Pericrocotus peregrinus (Linnæus).

Parus peregrinus Linn., Syst. Nat., i, p. 342 (1766—Umbala).
V. 113-114 ♂ ♀ 23-4-29.
Both specimens had the organ well advanced. Others were seen always in pairs (V. S. LaP.).
We are not yet satisfied as to the necessity for the changing of the well-established name of this species to *cinnamomeus* (vide *Bull. B. O. C.*, xlix, p. 63). This point and the question of races we propose to discuss later when the survey material is complete.

The Black-headed Cuckoo-Shrike. Lalage sykesi Strickland.

Lalage sykesi Strickland. Annals Mag. Nat. Hist., (1) xiii, p. 36 (1344—Calcutta).
V. 196 ♀ 6-5-29.
In complete moult, more than one specimen was observed but only one secured. Birds were seen to mate on April 27. Not very common though during the first week in May, their numbers increased (V. S. LaP.).

The Large Cuckoo-Shrike. Graculus macei Lesson.

Graculus macei Lesson, Traité, p. 349 (1831—Bengal).
More or less common though not in pairs. Identified with field-glasses, but no specimens procured (V. S. LaP.).

The Ashy Swallow-Shrike. Artamus fuscus Vieillot.

Artamus fuscus Vieill., Nouv. Dict. d' Hist. Nat., xvii, p. 297 (1817—Bengal)
V. 173 ♀ 2-5-29.
The only specimen seen but it apparently had flying young. (V. S. LaP.). The chick in spirit of this bird is badly needed for examination.

The King-Crow. Dicrurus macrocercus Vieillot.

Dicrurus macrocercus Vieillot, Nouv. Dict. d' Hist. Nat., ix. p. 588 (1817—India, restricted to Orissa.) V. 94 ♀ 20-4-29.
Common and breeding all over the area. Nest with eggs seen on April 9. (V. S. LaP.).
It is hoped that the Survey will get a good series of King Crows of any species which are known to be on their breeding ground. Until carefully sexed series are available of such birds, it will be impossible to disentangle races of these birds. Measurements which do not distinguish the sexes and which probably include local birds and migrants from elsewhere are quite valueless. At present many of the species of this group must be considered to be in confusion.

The Ashy Drongo. Dicrurus leucophæus Vieillot.

Dicrurus leucophæus Vieillot, Dict. d' Hist. Nat. Nouv., ed. ix, p. 587 (1817—Java) V. 74 ♀ 17-4-29.

This is another species of the genus which appears to be still in confusion and the collectors require to obtain as much further material as possible.

The White-bellied Drongo. Dicrurus cœrulescens (Linnæus).

Lanius cœrulescens Linn., Syst. Nat., ed. xii, p. 134 (1766—Bengal). V. 2, ♀ 9-4-29 ; V. 57 ♂ 15-4-29 ; V. 175 ♂ 3-5-29.

Common all over the area. Nest with 2 young seen in May. (V. S. LaP.)

The connection between the White-bellied Drongos of India and Ceylon is still obscure and requires working out fresh.

The Large Racket-tailed Drongo. Dissemurus paradiseus (Linnæus).

Cuculus paradiseus Linnæus, Syst. Nat., ed. xii, p. 172 (1766—Siam).

No specimens secured. Birds are not common and keep well in the thickest jungles. (V.S.LaP.).

Brisson in his *Ornithologie*, vol. iv, 1760, p. 151, pl. 14, gave a figure and described this bird from a drawing of a live bird made by M.D. Poivre.

Blyth's Reed-Warbler. Acrocephalus dumetorum Blyth.

Acrocephalus dumetorum Blyth, J. A. S. B., xviii, 815 (1849—India) V. 17 ♀ 11-4-29 ; V. 40-41 ♀ ♀ 13-4-29 ; V. 69 ♀ 17-4-29 ; V. 159 ♂ 3-4-29.

Strickland pointed out to Blyth that ' *Calamoherpe montana* of India is not the same as Horsfield's *montana*, in which the wing is 2 in. long, graduated ; the 5th quill longest ' and on that account the Indian bird required a new name. Blyth therefore gave it the name as above.

The Indian Tailor-Bird. Orthotomus sutorius (Pennant).

Motacilla sutoria Pennant, Ind. Zool., p. 7 (1769-Ceylon). V. 46-48 ♀ ♂♂ 14-4-29 ; V. 62-63 ♀ ♀ 16-4-29 ; V. 84 ♂ 19-4-29 ; V. 88 ♀ 19-4-29 ; V. 120 ♀ 24-4-29.

Common in bamboo forest and secondary jungle (V.S. LaP.).

Pennant, not Forster as given in the second edition of the *Fauna*, described the Tailor Bird in 1769.

After Governor Loten returned from the East he came to London and there met Thomas Pennant, the author of *British Zoology* and a great correspondent of Gilbert White's. He showed him his collection of paintings and Pennant suggested that they should be published in a book to be called *Indian Zoology* for which he would write the letterpress and the cost of reproducing the plates would be paid for by Sir Joseph Banks, Loten and himself.

This arrangement did not work well and the book was brought out before all the plates were reproduced. Pennant then suggested that J. R. Forster, a German naturalist at the time in England, who had accompanied Cook on his second voyage, should be given the remainder of the plates and asked to bring out another edition. This was agreed to and Forster returned to Germany taking with him three unpublished plates. In 1781 Forster published his *Zoologia Indica or Indesche Zoologie*, in German and Latin. It contained the same plates as Pennant's edition together with three extra ones.

Franklin's Wren-Warbler. Franklinia gracilis (Franklin).

Prinia gracilis Franklin, P. Z. S., 1831, p. 119 (Vindhyani Hills). V. 52 ♂ 4-4-29.

Major James Franklin, who described this species, was an officer in the 1st Bengal Cavalry and was a very keen geologist. He made several expeditions into different parts of the Central and United Provinces for the purpose of investigating the rocks and studying their stratification.

In the end of 1828, or early in 1829, he set out from Calcutta and proceeded by boat up the Ganges to Monghyr where he arrived on January 14th. He had been specially requested by the Asiatic Society to collect birds, and by the time he reached Monghyr, he was able to report to the Society that he had secured forty specimens along the banks of the river. Continuing up the Ganges as far as Mirzapur, he then left the river and proceeded southwards to the Tons valley thence westwards *via* Semaria, Hatta, Sohawal and Narsingarh to Saugor. From there he went S. E. to Deori, and the Bhanner Hills to Jubbulpore where he arrived on July 12th. Some two hundred birds were collected, which he handed over to the Society, who in turn presented them to the Zoological Society.

Franklin must have collected carefully, as his collection included the Chestnut-bellied Nuthatch, Spotted Tree-Creeper and Franklin's Nightjar and, in addition to the skins, he had made coloured drawings of all the birds while fresh. These drawings were exhibited along with the skins before the Zoological Society in September 1830, but now appear to have disappeared.

Franklin fully described his collection in the *Proceedings of the Zoological Society* for 1831 and there enumerated 156 species, of which thirty he described as new.

The Greenish Willow-Warbler. Phylloscopus nitidus viridanus Blyth.

Phylloscopus viridanus Blyth, J.A.S.B., xii, 967 (1843—Calcutta) V. 12 ♀ 10-4-29 ; V. 76 ♂ 17-4-29 ; V. 161 ♀ 1-5-29.

Extremely fat and probably on migration (V. S. LaP.). The above specimens show that this species undergoes a complete spring moult in April.

The Large Crowned Willow-Warbler. Phylloscopus occipitalis occipitalis (Blyth).

Phyllopneuste occipitalis Blyth. J. A. S. B., xiv, p. 593 (1845—Nellore) V. 54 ♂ 1-5-29.

Very fat and also probably on migration.

Blyth said that the bird he described was sent to him from S. India by Dr. Jerdon and according to the latter's *Birds of India*, vol. i, p. 196, the bird came from Nellore.

The Ashy Wren-Warbler. Prinia socialis Sykes.

Prinia socialis Sykes. P.Z.S., 1832, p. 89 (Deccan). V. 64 O ? 16-4-29 ; V. 136 ♂ 26-4-29; V. 145-147 ♂ ♀ 28-4-29. Shot in the open jungle. Do not enter dense forest. (V. S. LaP.).

The Jungle Wren-Warbler. Prinia sylvatica Jerdon.

Prinia sylvatica Jerdon, *Madras Jour. L. S.*, xi, p. 4 (1840—Seegar, Nilgiris) V. 87 ♂ 19-4-29.

The Indian Wren-Warbler. Prinia inornata Sykes.

Pinia inornata Sykes. P. Z. S., 1832, p. 89 (Deccan). V. 162 ♀ 1-5-29.

The races of all these species of Wren-Warbler appear to require revision and it is hoped that the Survey will obtain sufficient material for this to be possible.

The Black-headed Oriole. Oriolus xanthornus (Linnæus).

Coracias xanthornus Linn., Syst. Nat., ed. x, p 108 (1758—Bengal). Specimens observed through field glasses but none obtained. (V. S. LaP.).

Linné based his description on the Black-headed Icterus from Bengal in Edward's *Birds*, pt. ii, p. 77, pl. 17.

The Black-headed Mynah. Temenuchus pagodarum (Gmel).

Turdus pagodarum Gmelin, Syst. Nat. i, p. 816 (1789—Malabar). V. 83 ♀ 18-4-29 ; V. 158 ♂ 30-4-29.

Solitary pairs observed feeding round villages (V.S. LaP.).

The Baya Weaver. Ploceus philippinus (Linnæus).

Loxia philippina Linn. Syst. Nat., ed. xii, i, p. 305 (1766—Ceylon). V. 26 ♀ V. 28 ♂ 11-4-29 ; V. 150 ♂ 28-4-29 ; V. 166-168 ♂♀♀ 1-5-29.

All the males are in very fresh eclipse plumage with no sign of moult. Common and going about in large flocks of 20 to 30 individuals. Specimens as early as 11th April show increase in size of testes and latterly they showed more development. Still in large flocks on 6th May. (V. S. LaP.).

The survey should pay particular attention to these weavers as it is evident that their status and movements, their plumages, and their races are not yet fully understood.

Linné gives the type locality as the Philippines, but in this he had been misled by Brisson who gave a description of this Weaver in his *Ornithologie*, stating that the specimen he had seen was from these islands in the collection of M. L'Abbé Aubry. No true *Ploceus* inhabits the Philippines and the description agrees with bird inhabiting South India and Ceylon.

The White-backed Munia. Uroloncha striata (Linnæus).

Loxia striata Linnæus, Syst. Nat., ed. xiii, p. 306 (1766—Ceylon). Specimens seen but none secured. Towards the end of April, I noticed a total absence of these birds and they had apparently left the neighbourhood. (V. S. LaP.).

The Common Rosefinch. Carpodacus erythrinus roseatus (Hodgson).

Erythrospiza? roseata Blyth J. A. S. B., 1842, p. 461 (Calcutta). V. 171–2 ♀ ♂ 2-5-29.

Shot feeding on the figs of a Banyan tree. Extremely fat and with the organs quite undeveloped. (V. S. LaP.).

The Madras Bush-Lark. Mirafra assamica affinis Jerdon.

Mirafra affinis Jerdon, Madr. Jour. Lit. Sci., xiii, pt. 2, p. 136 (1844–45 Goomsor in Gangam. V. 7 ♂ 9-4-29 ; V. 9 ♀ 18-4-29 ; V. 43 ♂ 13-4-29 ; V. 61 ♀ 16-4-29 ; V. 75 ♂ 17-4-29 ; V. 123 ♀ 24-4-29 ; V. 126 ♀ 25-4-29.

Fairly common in open patches though I have met them in the jungles where they nest most probably. The soil on which they were living (sample kept) appears to be a mixture of red and cotton soil. The above specimens were in varying degrees of genital development. (V. S. LaP.).

Loten's Purple Sunbird. Cinnyris lotenia (Linnæus.).

Certhia lotenia Linnæus, Syst. Nat., 12th ed., i, p. 188 (1766—Ceylon). V. 21 ♀ 11-4-29 ; V. 83 A, V. 85 ♀♀ 19-4-29 ; V. 151 ♂ 29-4-29.

Sunbirds in general were common throughout the jungle tracts. (V. S. LaP.).

The huge beak of this species is very noticeable and the measurements given for it in the new edition of the *Fauna* are far too small. Linné's description is based on a drawing or actual specimen of the bird sent to him by J. C. Loten, which he had obtained while in Ceylon as Governor.

The Purple-rumped Sunbird. Cinnyris zeylonica (Linnæus).

Certhia zeylonica Linnæus, Syst. Nat., 12th ed., i, p. 181 (1766—Ceylon). V. 20 ♂ 11-4-29 ; V. 67 ♂ 16-4-29 ; V. 146 ♂ 28-4-29 ; V. 176 ♀ 3-5-29.

Special attention will have to be paid to this sunbird as the Survey moves northward as its range is very imperfectly known up the east side of India.

This bird like the last was received by Linné from J. G. Loten.

The Indian Pitta. Pitta brachyura (Linnæus).

Corvus brachyurus Linn., Syst. Nat., ed. xii, i, p. 158 (176—Ceylon). V. 15 ♂ 11-4-29 ; V. 27 ♀ 11-4-29 ; V. 68 ♂ 16-4-29.

Common and breeding throughout Kurumbapatti Forest area in dense forest. (V. S. LaP.).

The account in the *Fauna* of this bird which is described as a resident rather obscures the real position. Amongst those species which are confined to the Indian Empire, it is one of the most marked migrants moving from north to south in the autumn passage and *vice versa* in spring in vast multitudes. Long ago Jerdon described the way that exhausted birds on passage took refuge in bungalows and outhouses.

Linné took his description from Edwards's Short-tailed Pye (*Gleanings in Natural History*, p. 242, pl. 324). This bird had been figured already by Albin, and Edwards is very scathing of his picture and writes 'Albin has figured this bird from a bad drawing done in India, which I have seen at Mr. Dandridge's, though Albin would have the world believe his draught was from Nature.'

The specimen figured came from Ceylon and was presented by Governor Loten to the British Museum.

The Yellow-fronted Pied Woodpecker. Leiopicius mahrattensis (Latham).

Picus mahrattensis Latham, Ind. Orn. Supp., p. xxxi (1801—Belgaum). V. 191–192 ♂♂ 6-5-29.

In pairs. Not plentiful. (V. S. LaP.).

Originally described from a specimen in the British Museum from the Mahratta country. The specimen is no longer in existence.

Pygmy Woodpecker. Yungipicus hardwickii hardwickii (Jerdon.).

Picus hardwickii, Jerdon, Mad. Jour. Litt. and Sci., xiii, p 138, 1844 (Wynaad-Baker.).

V. 128. ♂ 25-4-29.

We have provisionally listed this specimen as *hardwickii*, but when further material is available, we think there will have to be some alterations in regard to the names of these woodpeckers.

The Golden-backed Woodpecker. Brachypternus benghalensis puncticollis (Malherbe)

Brachypternus puncticollis Malherbe, Rev. Zool., 1845, p. 405 (Nilgiris).

V. 129 ♀ 25-4-29 ; V. 154 ♂ 29-4-29.

Fairly common though spread over a wide area (V. S. LaP.).

This is another of the common and widespread species of India of which the races appear to require further consideration.

Malherbe in his original description says the bird he described came from the Nilgiris and not Ceylon as given in the second edition of the *Fauna*.

The Common Hawk-Cuckoo. Hierococcyx varius (Vahl).

Cuculus varius Vahl, Skriv. Nat. Selsk., iv., p. 61 (1797—Tranquebar).

V. 78 ♀ 18-4-29 ; V. 143 ♂ 27-4-29.

Quite common and heard throughout the day and part of the night. The female secured was about to lay. The gizzard contained 'beetles, ants, crickets and one large spider.' (V. S. LaP.).

The Pied-crested Cuckoo. Clamator jacobinus taprobanus Hartert.

Clamator jacobinus taprobanus Hartert, Nov. Zool., xxiii, p. 254 (1915—Ceylon).

V. 95 ♀ 20-4-29 ; V. 105 ♂ 21-4-29 ; V. 127 ♂ 25-4-29 ; V. 155 ♂ 29-4-29.

The earliest specimen secured was on April 20th, and from that date they seemed to increase in numbers. By the first week in May, all parts of the jungle had a pair of these birds : at least so it seemed from their noisy courting. (V. S. LaP.).

The above series is of considerable interest. All are in rather worn plumage without any sign of moult and on the label of the female, the collector has noted that she was laying eggs. From their small size the birds evidently belong to the small southern race, originally described from Ceylon and it is noteworthy that they arrived in the Salem District and commenced breeding about two months before a larger race is accustomed to arrive and breed in Northern India. It will be remembered that in a recent number of the *Journal*, our members were asked to collaborate in working out the migrations of this Cuckoo, and this evidence tends to support the theory that the winter quarters of the typical form are not in South India, and therefore probably in Africa.

The Small Green-billed Malkoha. Rhopodytes viridirostris (Jerdon).

Zanclostomus viridirostris Jerdon, Madras Jour. Lit. Sci., xi, p. 223 (1840—Coonoor).

V. 58-59 ♂ ♀ 15-4-29.

Common and breeding in Kurumbapatti Forest Reserve (V. S. LaP.).

The Blossom-headed Parrakeet. Psittacula cyanocephala (Linnæus).

Psittacus cyanocephalus Linn., Syst. Nat., i, p. 141, No. 10 (1766—India Orientali—Gingee).

V. 4 ♂ 9-4-29.

This parrakeet was described from the description given by Brisson in vol. iv, p. 343, of his *Ornithologie* published in 1766. In this work the letter-press is in Latin and French. The bird is said to have been in the collection of M. L'Abbe Aubry and to have come from 'Gingiuiano Regno in India Orientale,' i.e. Gingee in the South Arcot District.

The Little Green Bee-eater. Merops orientalis Latham.

Merops orientalis Latham, Ind. Orn. Suppl., pl. xxxiii (1801—Mahratta country).

V. 173 ♀ 2-5-29.

Fairly common. Birds were incubating on my arrival on 9th April. A nest was located in an old stone wall. (V. S. LaP.).

The Common Grey Hornbill. Lophoceros birostris (Scopoli).

Buceros birostris Scop., Del. Flor. et Faun. Insubr., ii, p. 87 (1786—Coromandel).

Several seen and they appear to be breeding. No specimens secured.

They are extremely shy, most probably on account of being slaughtered for food by the local shikaris. (V. S. LaP.).

The Palm-Swift. Tachornis batasiensis (J. E. Gray).

Cypselus batasiensis J. E. Gray in Griff. An. Kingd., ii, p. 60 (1829—India, Calcutta).

V. 5 ♂ ; V. ♀ 9-4-29.

Appear to be common. (V. S. LaP.).

The Spotted Owlet. Athene brama (Temminck).

Strix brama Temminck. Pl. Col., pt. 68, (1823—Pondicherry).

V. 51 ♀ 14-4-29.

A single specimen secured. Birds were heard in the forest. (V. S. LaP.).

The Southern Green Pigeon. Crocopus phœnicopterus chlorogaster (Blyth).

Vinago chlorogaster Blyth, J. A. S. B., xii, pt. i, p. 167 (1843—Indian Peninsula).

V. 144 ♂ 28-4-29.

Not common here. (V. S. LaP.).

The Imperial Green Pigeon. Muscadivora ænea pusilla (Blyth).

Carpophaga pusilla Blyth, J. A. S. B., xviii, p. 816 (1849—Nilgiris).

V. 14 ♀ 10-4-29.

Ovaries slightly developed. Not common. Shot from a party of four. (V. S. LaP.).

The reference to this bird in the *Fauna*, 2nd edition, is wrong. It was described by Blyth in 1849 (not 1840) and the bird came from the Nilgiris—obtained by Jerdon—not Ceylon.

The Spotted Dove. Streptopelia chinensis suratensis (Gmelin).

Columba suratensis Gmel., Syst. Nat., i, p. 778 (1789—Surat).

V. 160 ♀—5-29.

Fairly common (V. S. LaP.).

This is another of Sonnerat's birds described and figured by him in *Voy. aux Ind. Orient. et à la Chine*, plate p. 179, but like the rest of his discoveries not named in Latin.

The Grey Jungle-Fowl. Gallus sonneratii Temminck.

Gallus sonneratii Temm., Pig. et Gall., ii, p. 246 (1813—India).

V. 16 ♀ 10-4-29.

Fairly well distributed over the Reserve. Female with young observed on May 2nd. (V. S. LaP.).

The Red Spur-Fowl. Galloperdix spadicea (Gmelin).

Tetrao spadicea Gmelin, Syst. Nat., i, pt. 2, p. 759 (1789—Nilgiris).

V. 44 ♀ 13-4-29 ; V. 81 ♂ 18-4-29.

More or less common. (V. S. LaP.).

Gmelin's name is founded on Sonnerat's *Perdix Rouge de Madagascar* (*Voy. aux Indes, etc.*, p. 169) but the bird like others had probably been introduced into Madagascar by the French.

Common Bustard-Quail. Turnix suscitator taijoor (Sykes).

Hemipodius taijoor Sykes, P.Z.S., 1832, p. 155 (Deccan).

V. 80 ♀ 18-4-29.

This female had a fully formed egg in the oviduct.

The Indian Button-quail. Turnix maculatus tanki Blyth.

Turnix tanki Blyth, J.A.S.B., xii, p. 180 (1843—India).

V. 45 ♂ 13-4-29.

Mr. LaPersonne states that *Turnix* generally was common.

Blyth's description and name were based on Buchanan-Hamilton's MS. named drawing of a bird from Bengal.

The Indian Stone Curlew. Burhinus œdicnemus indicus (Salvad.).

Œdicnemus indicus Salvadori, Atti. Soc. Ital. Sci. Nat., viii, p. 381 (1866—India).

V. 117 ♀ 23-4-29.

Not common. A female shot had a full yolk in the ovary. Breed in open scrub covered country or jungle. I have flushed a bird in thick bamboo clump. (V. S. LaP.)

The Red-wattled Lapwing. Lobivanellus indicus indicus (Bodd).

Tringa indica Bodd, Pl. Enl. p. 50 (1783—Goa.).

V. 92 ♀ 19-4-29.

(*To be continued*)